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ABSTRACT

On the hypothesis that values have great strength in determining human goal direction, and that man's vocational decisions are in some way an extension of the self, it may be assumed that individuals choosing similar college majors will have similar work values, which differ from individuals choosing different majors. This report describes a research project studying the relationship between work values and college majors, after a brief review of the literature. During the academic year 1969-70, a random sample of 180 males representing Holland's 6 categories of vocational choice (realistic, intellectual, social, conventional, enterprising, and artistic) were administered the Work Values Inventory. The 6 groups varied significantly on 9 of the eighteen values: social welfare, freedom in work, satisfactory supervision, creativity, variety, material esteem, status, family esteem, and religious esteem. The results of the study seem to indicate that vocational counseling should take these differences into account. (AF)

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A STUDY OF WORK VALUES AS THEY RELATE TO HOLLAND'S SIX PERSONAL ORIENTATIONS

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May 4, 1970

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A STUDY OF WORK VALUES AS THEY RELATE TO HOLLAND'S SIX PERSONAL ORIENTATIONS

Values may be considered to be a core component which directs individuals on a long-range basis to some goals in preference to others. They appear to be very substantial in their capacity to direct behavior. As Hollander (1967) states, "Values have substantial directive force in human experience. Men die for values...."

Values may be considered to be a core component of a "personal orientation" described by Holland (1959, 1966, 1968). He assumes that we can characterize individuals by their resemblance to six personal orientations. Personal orientations are developed from experience with "cultural and personal forces including peers, parents and significant adults, social class, American culture, and the physical environments (Holland, 1963)." Holland further assumes that we can characterize work environments by their resemblance to six models and that the individual making a vocational choice is in a sense searching for those work environments which are congruent with his personal orientations. He states:

> People search for environments and vocations that will permit them to exercise their skills and abilities and values, to take on agreeable problems and roles, and to avoid disagreeable ones (Holland, 1966).

Values may also be considered to be a core component of the "self-concept." Super (1953) has proposed a theory that vocational choice is a compromise process of developing and implementing the self-concept.

Accepting Super's theory and Holland's theory, one would also accept the assumption that values have substantial directing force in vocational decision-making. Schwarzweller (1959) found support for this assumption. His data supported the hypothesis that high school students' "value orientations do play an influential part in the career choice-making process."

Given the strength that values have in determining human goal direction and the theories that man's vocational decisions are in some way an extension of the self, it may well be hypothesized that individuals choosing similar college majors will have similar work values and different from individuals choosing different majors. The existence of such a unique hierarchy of work values related to college majors would have implications for vocational counseling and decision-making.

It is the purpose of this research to study the relationship between work values and college majors.

Brief Review of the Literature

As research tends to support Holland's theory of vocational

choice (Holland, 1962; Holland, 1963; Holland and Nichols, 1964; Holland, 1968) and Super's theory of the implementation of the self concept (Englander, 1960; Warren, 1961; Morrision, 1962; Wheeler and Carnes, 1968), one might assume that values are intrinsically associated with choices of college majors. Research also tends to support this assumption.

After factor analysis of responses, Hammond (1956) found that on the first factor (economic-status) highest scores were made by students entering business, commercial art, law, and pharmacy; on the second factor (personal-status) highest scores were made by students entering journalism, advertising, radio, and dramatics; highest on the third factor (structure-need) were men choosing engineering and the natural sciences; and men choosing social science applications scored highest on the fourth factor (acceptance-need).

Also after factor analysis, Astin (1958) found students selecting careers in sales, managerial and persuasive occupations obtained highest scores on the cluster which contained items on control and dominance. The second cluster (status-need) was not found significantly related to vocational choices. The third cluster, with items valuing structure and organization, showed students choosing careers requiring scientific training scored highest.

Caple (1961) studied five major fields of study and found values important to each group. He states, "Despite

certain limitations of the present study it may be said that a significant value pattern was obtained characterizing the five sample groups representing five major fields of study chosen for investigation (p. 96)."

Looking at differences between secondary teachers, accountants, and engineers, Gray's (1963) results with the Miller Occupational Values Inventory yielded significant differences between all three groups. In general, teachers valued social rewards, accountants valued prestige, and engineers valued career satisfaction and prestige.

Pal (1967) examined the value patterns of engineering, law, medical, and teacher-training students in college. He found that a unique hierarchy of values emerged in each group. For engineering students, economic value was highest and religious value was lowest. For law students, political value was highest followed by economic value. For medical students, theoretical value was highest followed by social while aesthetic was lowest. For teacher-training students, political value was highest followed by theoretical.

Kunert (1969) drew subjects from schools of law, medicine, theology, and engineering to investigate the personality-vocational-choice relationship. His Q-sort method showed a hierarchy of values within each group. In general, law students were concerned with self, status, position, political interests, involvement, and the intellectual aspects of work. Medical

students valued financial and psychological support, involvement, logic and reason, and emotional control. Theology students are guided by beliefs and principles, concern for others, interpersonal relationships, idealism, commitment, and rigidity in evaluating the world. The engineering students were guided by challenge, competition, security, money, family, technical and mechanical hobbies, and precise communication. They avoided others problems, had little interest in the abstract or esthetic, and minor interest in religion.

Freshman and senior College of Engineering students were chosen by Olive (1969) for her investigation of the relationships of values and occupational role perceptions. Seniors were found to have a significantly different value hierarchy, emphasizing "power over people" and "self expression" with decreased value of "material gain" and "religion."

Also relevant, are several studies examining the relationship of personality to vocational decisions.

Norman and Redlo (1952) studied seven group of students pursuing different college majors. Comparing groups on the MMPI, he found a tendency for students strongly satisfied with their major to resemble their own group on discriminative scales and a tendency for students who would rechoose the same major to deviate less from their own group than those who would rechoose a different major.

The purpose of a study by Sternberg (1955) was to determine the extent of the differences of patterns of personality traits among students majoring in different fields in college. Every major subgroup differed significantly in mean scores from all other subgroups on at least one personality factor.

Tuchman (1968) predicted that occupational satisfaction was a function of personality and the extent to which personality-derived requirements were present in the occupational role. Satisfaction was found related to the actual-ideal discrepancy on four variables for one group but no relationships were found for another group.

Taken together or individually, these studies show strong support for the assumption that individuals choosing different college majors will have a hierarchy of work values unique to that group of college majors.

Question

John L. Holland's theory of vocational choice groups personal orientations and work environments into six categories. These categories are: (1) Realistic, (2) Intellectual, (3) Social, (4) Conventional, (5) Enterprising, and (6) Artistic. Classified under each model are listed college majors which would appear to be congruent with the personal orientations of those who would choose particular vocations.

In the case of this study, a choice of vocation was

indicated by an individual's pursuit of a college major in any particular field. Within this framework, this study seeks to answer the following question:

> Do selected students grouped by college major into Holland's six categories have values unique to that group of college majors and distinquishable from the other groups?

Method

During the academic year 1969-70, a random sample of 180 males (30 per category) representing Holland's six categories were administered the Work Values Inventory.

The Work Values Inventory was revised by Caple (1961) from an original inventory developed by Super (1960) for grade school children. Caple reworked the inventory to include only one part and added three additional values for a total of eighteen values (See Table 5).

For the purpose of statistical analysis, the following null hypothesis was tested: There will be no significant difference among six groups of college majors on each of eighteen work values identified via the Work Values Inventory. The data was submitted to an analysis of variance for each value followed by F tests with the .05 level established for significance.

Results

For six groups with one hundred and seventy-four degrees of freedom, an F of 2.26 is significant at the .05 level. The six groups varied significantly for nine of the eighteen values.

These values were: (A) Social Welfare; (F) Freedom in Work; (I) Satisfactory Supervision; (J) Creativity; (K) Variety; (N) Material Esteem; (O) Status; (P) Family Esteem; and (Q) Religious Esteem. Table 1 contains the means scores for all groups on all values and Table 2 contains the results of the analysis of variance for the nine significant values. Thus, the null hypothesis was rejected for nine of the eighteen values of the Work Values Inventory.

As further examination was needed to determine where the significant differences were, the Newman-Keuls method of *a posteriori* mean comparisons was adopted. Results of the Newman-Keuls procedure for each of the non-significant values are summarized in Table 3.

Discussion

Realistic students in this study were primarily from the areas of Agriculture and Engineering (See Table 4). These students scored highest on (P) Family Esteem. They differed significantly only from Artistic students on this value. The Realistic students' next highest values were (H) Knowledge and (C) Personal Freedom (both non-significant values). Their fourth highest value was (F) Freedom in Work although they did not differ significantly from the other five groups on this value.

The lowest score for Realistic students was on (J) Creativity. The Realistic students differed significantly on the

Creativity value from all other groups except Social. Their next lowest scores were on (C) Conditions of Work and (R) Political Esteem. On their fourth lowest value, (Q) Religious Esteem, they differed significantly from the Conventional and Artistic students.

These results would tend to support Pal's (1967) findings that engineering students score low on Religious values and, also, Caple's (1961) findings that agriculture students valued Personal Freedom and Freedom in Work but scored low on Creativity and Conditions of Work. The engineering students of Caple's study also scored high on Knowledge as did the Realistic Students in this study.

Conventional students in this study scored highest on (F) Freedom in Work. The accounting and economics majors who made up this group differed significantly from the Intellectual and Social students who scored low on this value (See Table 6). The second highest value for Conventional students was (G) Peer Relations (a non-significant value). Their third highest value was (P) Family Esteem. They differed significantly from the Artistic group only on this value.

The Conventional students' lowest value was (Q) Religious Esteem. The Conventional students scored very similar to the Artistic students on this value and both groups differed significantly from all other groups on Religious Esteem. Their next lowest score was (J) Creativity. While scoring lowest of all groups on Creativity, they differed significantly from all groups except Enterprising. Their other low score was (R) Political Esteem, a non-significant value.

While Gray (1963) found that accountants valued prestige highly, the Conventional students in this study scored second high on the value (O)Status, placing it well toward the middle of their value hierarchy.

Intellectual students in this study highly valued (P) Family Esteem, (C) Personal Freedom, (G) Satisfying Peer Relations, and (H) Knowledge. While scoring highest on Family Esteem, they differed significantly from Artistic students only. Personal Freedom, Satisfying Peer Relations, and Knowledge were all non-significant values.

The low score for Intellectual students was on (O) Status. This was followed by (E) Conditions of Work, (Q) Religious Esteem, and (N) Materialism. On Status, the Intellectual group differed significantly from all groups except Social. Conditions of Work and Materialism were non-significant values. On (Q) Religious Esteem, the Intellectual group differed significantly form the Conventional and Artistic groups.

The Intellectual category covers a wide range of college majors (See Table 4). The physical science majors from the Caple study (1961) would be a part of this group. Caple found that physical science majors valued Knowledge, Inventiveness, and Personal Freedom. Knowledge and Personal Freedom were among the four highest values in the Intellectual group in this study also. But, where the physical science majors scored very low on Family Esteem in Caple's study, the Intellectual group valued Family Esteem highest.

Hammond (1956) and Astin (1958) both found that natural science students highly valued "structure." These results would seem to be in agreement with the fact that Intellectual students in this study scored lowest of all groups on (F) Freedom in Work.

Enterprising students scored highest on (F) Freedom in Work followed by (C) Personal Freedom, (P) Family Esteem, and (G) Satisfying Peer Relations. The only significant difference was on Family Esteem where Enterprising students scored significantly higher than Artistic students--the Artistic students scoring low enough on Family Esteem to differ significantly from all other groups (See Tables 3 and 6).

In terms of low scores, Enterprising students scored lowest on (J) Creativity, scoring significantly lower than all groups except Conventional. Their next to lowest score, (Q) Religious Esteem, was significantly higher than Conventional and Artistic students but lower than the other groups. (E) Conditions of Work, their third lowest score was a non-significant value. Their other low score was on (A) Social Welfare. The Enterprising students scored lowest of all groups on Social Welfare, significantly lower than Artistic, Intellectual, and Social students.

Several previous studies have looked at the values of Enterprising majors. The law students of previous studies (Hammond, 1956; Pal, 1967; and Kunert, 1969) scored highest on economic and status values while Enterprising students in this study placed comparable values such as (M) Security, (N) Material Esteem, and (O) Status very much to the middle of their value herarchy. As law students made up a small minority of the Enterprising group, this may not be too surprising.

Astin's (1958) results regarding business students scoring highest on control and dominance items seems to be somewhat supported by Enterprising students scoring higher than four other groups on (I) Satisfactory Supervision and (B) Management Responsibility.

Social students scored highest on the following values: (C) Personal Freedom, (G) Satisfying Peer Relations, (A) Social Welfare, (H) Knowledge, and (P) Family Esteem. Of their highest values, two were significant after the analysis of variance. On one of the significant values, Social Welfare, the Social students scored highest of all groups, being significantly higher than Enterprising, Realistic, and Conventional students. On the other significant value, Family Esteem, the Social students scored significantly higher than the Artistic students but lower than the other four groups.

The Social students low scores were on (O) Status and (J) Creativity. On Status, the Social group scored significantly lower than the Artistic, Conventional, and Enterprising groups. On Creativity, the Social group scored significantly lower than the Artistic and Intellectual students and significantly higher than the Conventional and Enterprising students. One other value, (K) Variety, was not a particularly low score for the Social students but is of significance because all other groups scored significantly higher than the Social group on Variety and because there were no other significant differences between groups on that value.

Gray (1963) found teachers valuing rewards and Caple (1961) found them valuing Social Welfare. Pal (1967) also found medical students high on social commitment. While the Social students in this study did not value Social Welfare highest, they did score highest on that value and it was one of their high scores tending to support the above studies.

Pal's (1967) results that teachers scored highest on political items was not supported by the Social group who placed (R) Political Esteem very much in the middle of their hierarchy.

Caple's (1961) finding that education majors scored lowest on Knowledge was not supported when the entire Social group was compared. (H) Knowledge was the fourth highest value for the Social group. He also found education majors scoring low on Personal Freedom which was the Social groups highest score in the present study.

Artistic students in this study were primarily journalism, English, drama, and art majors. Their highest score was on (F) Freedom in Work. Their score on this value did not significantly differ from any other group. Their next highest scores were on (C) Personal Freedom and (H) Knowledge. The Artistic students' other high score was on (K) Variety. The Artistic students scored highest of all groups on Variety but significantly higher than the lowest scoring group only--the Social students.

In terms of low scores, the Artistic students low values were (Q) Religious Esteem and (I) Satisfactory Supervision. On Religious Esteem, the Artistic students scored significantly lower than all groups except the Conventional students whose mean score was even lower than the Artistic mean (See Tables 3 and 6). On Satisfactory Supervision, Artistic students scored significantly lower than all other groups.

Hammond (1956) found students majoring in journalism, radio, and dramatics scored highest on personal status. While (O) Status was not one of the highest scores for the Artistic students in this study, they did score highest of all groups on Status and significantly higher than the two lowest scoring groups--the Intellectual and the Social group.

Implications

There appear to be several limitations in regard to generalizing from the data obtained in this study. One obvious limitation would be regarding the fact that the sample was made up entirely of males. Females may well choose majors within the six groups of Holland's theory for very different reasons. In fact, Holland states that his theory is based chiefly on males and is probably "less useful" for understanding the role of values for women (1966,p.13).

Another limitation would appear to be in the lack of control over grade-level of subjects. Olive (1969) found significant differences between engineering students choosen from freshman and senior classes for example.

Within certain limitations, this study did reveal significant differences among Holland's six groups on certain work values. These results would seem to indicate that vocational counseling should take this type data into account. While further research is needed on the essence of "work values," the constancy, sex differences, and so on, research seems to support Ginzberg's early pronouncement:

> The connection between occupational choice process and work satisfaction is not contained in the specific decision which the individual reaches, but in how he clarifies the goals and values which are associated with the satisfactions he seeks in work. This clarification is an essential part of his occupational decision-making, for he cannot make a choice without determining, at least preliminarily, what he wants to get out of work (Ginzberg, 1951).

Table 1:
MEAN SCORES BY GROUP FOR EACH OF 18 VALUES

Value	Real.	Conv.	Inte.	Ente.	Soci.	Arti.
A. Social Welfare	7.23	7.80	10.10	5.96	10.86	9.32
B. Management Responsibility	7.73	7.24	7.30	8.80	8.90	7.60
C. Personal Freedom	10.63	11.40	11.40	12.00	12.06	12.53
D. Inventiveness	8.26	6.20	8.50	7.10	7.06	8.62
E. Conditions of Work	5.53	7.40	5.04	5.46	5.90	6.10
F. Freedom in Work	10.23	13.60	9.10	12.60	9.33	12.80
G. Satisfying Peer Relations	10.07	12.00	11.30	10.63	11.42	9.80
H. Knowledge	10.93	8.80	10.30	9.42	10.73	11.10
I. Satisfactory Supervision	8.77	9.60	8.66	9.44	9.10	5.80
J. Creativity	5.43	3.00	8.70	3.30	5.70	9.12
K. Variety	8.92	9.00	9.30	8.83	6.97	10.53
L. Challenge	9.00	7.80	9.30	7.60	10.06	7.50
M. Security	8.43	9.20	8.26	9.56	8.07	7.20
N. Material Esteem	9.96	10.00	6.50	9.70	6.30	9.34
O. Status	7.30	9.00	4.76	8.86	5.68	9.12
P. Family Esteem	10.97	11.78	12.98	11.82	10.43	7.76
Q. Religious Esteem	6.93	2.02	6.48	5.23	7.23	2.10
R. Political Esteem	6.42	5.98	6.77	6.62	7.30	9.36

Table 2:
RESULTS OF ANALYSIS OF VARIANCE FOR 9 SIGNIFICANT VALUES

A. Social Welfare

Source	SS	df	MS	F
Betweens	520.58	5	104.12	
Withins	2575.97	174	14.80	7.03

F. Freedom in Work

Source	SS	df	MS	F
Betweens	572.18	5	114.44	
Withins	2085.93	174	11.99	9.55

I. Satisfactory Supervision

Source	SS	df	MS	F
Betweens	294.47	5	58.89	
Withins	1757.73	174	10.10	5.83

J. Creativity

Source	SS	df	MS	F
Betweens	1005.09	5	201.02	
Withins	2672.97	174	15.36	13.09

K. Variety

Source	SS	df	MS	F
Betweens	207.18	5	41.44	
Withins	1550.27	174	8.91	4.65

Table 2:
(CONTINUED)

N. Material Esteem

Source	SS	df	MS	F
Betweens	460.98	5	92.19	
Withins	2830.27	174	16.27	5.67

O. Status

Source	SS	df	MS	F
Betweens	420.58	5	84.12	
Withins	2449.67	174	14.08	5.97

P. Family Esteem

Source	SS	df	MS	F
Betweens	476.76	5	95.35	
Withins	3104.10	174	17.84	5.34

Q. Religious Esteem

Source	SS	df	MS	F
Betweens	853.20	5	170.64	
Withins	3722.80	174	21.40	7.98

Table 3:
RESULTS OF THE NEWMAN-KEULS TEST OF SIGNIFICANCE BETWEEN MEANS

A. Social Welfare

Table of Difference Between Means

	Ente.	Real.	Conv.	Arti.	Inte.	Soci.
Ente.	-	1.27	1.84	3.36*	4.14*	4.90*
Real.	-	-	.57	2.09	2.87*	3.63*
Conv.	-	-	-	1.52	2.30	3.06*
Arti.	-	-	-	-	.78	1.54
Inte.	-	-	-	-	-	.76
Soci.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

F. Freedom in Work

Table of Difference Between Means

	Inte.	Soci.	Real.	Ente.	Arti.	Conv.
Inte.	-	.23	1.13	3.50	3.70	4.50*
Soci.	-	-	.90	3.27	3.47	4.27*
Real.	-	-	-	2.37	2.57	3.37
Ente.	-	-	-	-	.20	1.00
Arti.	-	-	-	-	-	.80
Conv.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

I. Satisfactory Supervision

Table of Difference Between Means

	Arti.	Inte.	Real.	Soci.	Ente.	Conv.
Arti.	-	2.86*	2.97*	3.30*	3.64*	3.80*
Inte.	-	-	.11	.44	.78	.94
Real.	-	-	-	.33	.67	.83
Soci.	-	-	-	-	.34	.50
Ente.	-	-	-	-	-	.16
Conv.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

J. Creativity

Table of Difference Between Means

	Conv.	Ente.	Real.	Soci.	Inte.	Arti.
Conv.	-	.30	2.43*	2.70*	5.70*	6.12*
Ente.	-	-	2.13*	2.40*	5.40*	5.82*
Real.	-	-	-	.27	3.27*	3.69*
Soci.	-	-	-	-	3.00*	3.42*
Inte.	-	-	-	-	-	.42
Arti.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

Table 3:
(CONTINUED)

K. Variety

Table of Difference Between Means

	Soci.	Ente.	Real.	Conv.	Inte.	Arti.
Soci.	-	1.86*	1.95*	2.03*	2.33*	3.56*
Ente.	-	-	.09	.17	.47	1.70
Real.	-	-	-	.08	.38	1.61
Conv.	-	-	-	-	.30	1.53
Inte.	-	-	-	-	-	1.23
Arti.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

N. Material Esteem

Table of Difference Between Means

	Soci.	Inte.	Arti.	Ente.	Real.	Conv.
Soci.	-	.20	3.04*	3.40*	3.66*	3.70*
Inte.	-	-	2.84*	3.20*	3.46*	3.50*
Arti.	-	-	-	.36	.62	.66
Ente.	-	-	-	-	.26	.30
Real.	-	-	-	-	-	.04
Conv.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

O. Status

Table of Difference Between Means

	Inte.	Soci.	Real.	Ente.	Conv.	Arti.
Inte.	-	.92	2.54*	4.10*	4.24*	4.36*
Soci.	-	-	1.62	3.18*	3.32*	3.44*
Real.	-	-	-	1.56	1.70	1.82
Ente.	-	-	-	-	.14	.26
Conv.	-	-	-	-	-	.12
Arti.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

P. Family Esteem

Table of Difference Between Means

	Arti.	Soci.	Real.	Conv.	Ente.	Inte.
Arti.	-	2.67*	3.21*	4.02*	4.06*	5.22*
Soci.	-	-	.54	1.35	1.39	2.55
Real.	-	-	-	.81	.85	2.01
Conv.	-	-	-	-	.04	1.20
Ente.	-	-	-	-	-	1.16
Inte.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

Table 3:
(CONTINUED)

Q. Religious Esteem

Table of Difference Between Means

	Conv.	Arti.	Ente.	Inte.	Real.	Soci.
Conv.	-	.80	3.21*	4.46*	4.91*	5.21*
Arti.	-	-	3.13*	4.38*	4.83*	5.13*
Ente.	-	-	-	1.25	1.70	2.00
Inte.	-	-	-	-	.45	.75
Real.	-	-	-	-	-	.30
Soci.	-	-	-	-	-	-

* Asterick indicates significance at the .05 level

Table 4:
COLLEGE MAJORS BY HOLLAND'S SIX PERSONAL ORIENTATIONS

Realistic

Forestry
Agriculture
Animal Husbandry
Engineering
Wildlife Management
Industrial Arts
Physical Education

Conventional

Accounting
Secretarial
Economics
Library Science

Intellectual

Physics
Medicine (women)
Botany
Anthropology
Zoology
Chemistry
Math
Geology
Veterinary
Archetecture
Biology
Philosophy
Pharmacy
Medical Technology
Speech Pathology
Horticulture
Architecture

Enterprising

Business Administration
Sales
Law
Personnel Management
Political Science
History
Public Administration
Government

Social

Social Work
Psychology
Counselor - Guidance
Education
Nursing
Medicine (men)
Sociology
Recreation
Physical Therapy
Home Economics

Artistic

Art
Music
Dramatics
Journalism
Literature
Writing
English
English Education
Interior Decoration
Languages
Foreign Languages Education

Table 5:
WORK VALUES INVENTORY ITEMS AND VALUES

A. Value: Social Welfare
   Item: Work in which you help people develop their physical and mental well-being.
B. Value: Supervision of Others
   Item: Work in which you direct the work and efforts of other people.
C. Value: Personal Freedom
   Item: Work which permits you real freedom to govern your personal life.
D. Value: Inventiveness
   Item: Work in which you develop new products or invent new things.
E. Value: Conditions of Work
   Item: Work with pleasant physical conditions; not too hot, cold, noisy, dirty, etc.
F. Value: Freedom
   Item: Work you are free to do in your own way.

G. Value: Satisfying Peer Relations
   Item: Work in which your fellow workers are people you like and enjoy working with.
H. Value: Knowledge
   Item: Work in which you can continue to learn new things and develop new ideas.
I. Value: Satisfactory Supervision
   Item: Work under a boss you respect and enjoy working with.

J. Value: Creativity
   Item: Work in which you create beautiful things.

K. Value: Variety
   Item: Work in which you do many different things.

L. Value: Challenge
   Item: Work that stimulates you to seek the highest competency in it.
M. Value: Security
   Item: Work that will always provide a position for you even in hard times.
N. Value: Material Esteem
   Item: Work that pays enough so you can have all the things you want.
O. Value: Status
   Item: Work in which you hold high rank or position

Table 5:
(CONTINUED)

P. Value: Family Esteem
Item: Work in which you will be home with your family every evening and week-ends.

Q. Value: Religious Esteem
Item: Work in which you help further the religious faith of your choice.

R. Value: Political Esteem
Item: Work in which you will be able to influence national and world affairs.

Table 6:
GRAPHIC REPRESENTATION OF GROUP MEANS ON 9 SIGNIFICANT VALUES

Values	A	F	I	J	K	N	O	P	Q
13.00		C							
.75		A						I	
.50		E							
.25									
12.00								E	
.75								C	
.50									
.25									
11.00								R	
.75	S								
.50					A			S	
.25		R							
10.00	I					C			
.75						R			
.50			C			E			
.25		S	E		I	A			
9.00		I	S	A	C		A		
.75			R	I	R		E		
.50			I		E				
.25	A								
8.00									
.75	C							A	
.50									
.25	R						R		
7.00					S				S
.75									R
.50						I			I
.25						S			
6.00	E								
.75			A	S			S		
.50				R					
.25									E
5.00									
.75							I		
.50									
.25									
4.00									
.75									
.50									
.25				E					
3.00				C					
.75									
.50									
.25									
2.00									A C

mean scores

Key: R = Realistic; C = Conventional; I = Intellectual; E = Enterprising; S = Social; and A = Artistic

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